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IS 11188-2 (1991): Vault (Strong room) doors, Part 2: Test for burglary resistance [MED 24: Security Equipment]

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“Knowledge is such a treasure which cannot be stolen”





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भारतीय मानक  
वाल्ट (कोष-कक्ष) के दरवाजे  
भाग 2 चोरी से प्रतिरोध संबंधी परीक्षण  
( पहला पुनरीक्षण )

*Indian Standard*  
**VAULT ( STRONG ROOM ) DOORS**  
**PART 2 TEST FOR BURGLARY RESISTANCE**  
( *First Revision* )

UDC 69.028.1-759.8 : 620.1

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**BUREAU OF INDIAN STANDARDS**  
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NEW DELHI 110002

## FOREWORD

This Indian Standard ( First Revision ) was adopted by the Bureau of Indian Standards, after the draft finalized by the Safes Sectional Committee had been approved by the Heavy Mechanical Engineering Division Council.

Vault ( strong room ) doors are used mainly in banking industry to protect the contents of vaults ( strong rooms ) from burglarious attack and also against damage to valuables from fire. These doors may also be used by other organizations like financial institutions, commercial, industrial, defence and mercantile organizations.

Earlier the vault doors and strong room doors were considered to be two different items. Hence IS 11188 : 1985 'Vault doors' was laying down requirements of vault doors and IS 7152 : 1974 'Strong room doors' was covering the requirements of strong room doors. Under the present circumstances the vault doors and strong room doors are considered to be synonymous. Hence during the revision of IS 11188, its scope has been modified to cover the requirements of vault ( strong room ) doors. Subsequently IS 7152 will be withdrawn.

During the revision of IS 11188, the necessity has also been felt to lay down the performance requirements for vault doors against burglarious attacks and fire resistances. Hence the revision of IS 11188 has been prepared in the following parts to cover the various aspects:

- Part 1 Specification**
- Part 2 Tests for burglary resistance**
- Part 3 Test for fire resistance**

In reporting the results of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS 2 : 1960 'Rules for rounding off numerical values ( revised )'.

**AMENDMENT NO. 1 JULY 1994  
TO  
IS 11188 (Part 2) : 1991 VAULT (STRONG ROOM)  
DOORS**

**PART 2 TEST FOR BURGLARY RESISTANCE**

*(First Revision)*

*(Page 2, clause 5.1) — Substitute the following for the existing clause:*

*‘Any or all of the methods of attacks specified in 5.2 to 5.4 may be employed at the option of the testing party, which shall consist of two experienced operators at a time, familiar with the design of the door.’*

**(HMD 24)**

Reprography Unit, BIS, New Delhi, India

# *Indian Standard*

## VAULT ( STRONG ROOM ) DOORS

### PART 2 TEST FOR BURGLARY RESISTANCE

#### *( First Revision )*

##### **1 SCOPE**

1.1 This standard ( Part 2 ) lays down the method of test for assessing burglary resistance capacity of the vault ( strong room ) doors.

1.2 This standard does not lay down the method for assessing the resistance of vault ( strong room ) door against attacks with the burning bar ( thermic lance ) or heavy explosives.

##### **2 TERMINOLOGY**

###### **2.1 620 cm<sup>2</sup> Opening**

A rectangular shaped opening with the smallest dimension 152 mm or a circular opening with 281 mm diameter, or an isosceles rightangled triangle shaped opening with a hypotenuse of 493 mm.

###### **2.2 Common Hand Tools**

These include chisels, punches, wrenches, screw drivers, pliers, hammers and sledge hammers not exceeding 3.5 kg in mass and pry bars and ripping tools not exceeding 1.68 metre in length.

###### **2.3 Picking Tools**

These include common or standard patterns that are not designed for use against a specific make of door.

###### **2.4 Impact Tools**

Includes portable electric or pneumatic impact hammers and hammer drills not exceeding 25.4 mm in diameter.

###### **2.5 Pressure Applying Devices**

Includes portable drill presses, portable drilling jigs or any other types of drill holding mechanism.

###### **2.6 Portable Electric Tools**

Electric hand drills accommodating drill bits not larger than 20 mm and coring drills. It includes carbide tipped drills and also portable abrasive cutting wheels.

###### **2.7 Power Saws**

These include circular saws not exceeding 200 mm in diameter, hole saws not exceeding

305 mm in diameter and reciprocating saws with a maximum blade length of 200 mm.

###### **2.8 Hydraulic Tools**

Portable electrically or manually operated jacks, wedges and similar pressure applying devices not exceeding 445 000 N of force.

###### **2.9 Gas Cutting Torch**

A heavy duty commercially available oxyacetylene 3.15 mm nozzle size length 90 to 135 cm, with capacity to cut 30 cm of solid mild steel block. The quantity of gas consumed ( combined total oxygen and fuel gas ) in any one test shall be limited as follows:

For Class C door	28 m <sup>3</sup>
For Class B door	56 m <sup>3</sup>
For Class A door	112 m <sup>3</sup>
For Class AA door	224 m <sup>3</sup>
For Class AAA door	336 m <sup>3</sup>

###### **2.10 Fluxing Rod**

Low carbon steel or similar type material rods, such as concrete reinforcing rods, to aid in torch cutting.

##### **3 NET WORKING TIME**

3.1 As the object of the investigation is to arrive at conclusions as to the resistance of a door to expert attack, the testing party, consisting of two skilled operators at a time may select a number of attacks within the scope of the test procedure and attempt each attack for the full allotted time.

3.2 The net working time is to be understood to cover only the period during which an attack is actively in progress on the door and is to be exclusive of preparation time for test and time required for safety precautions. The attack shall be in one continuous operation.

##### **4 SAMPLE FOR TESTING**

A single sample, known to be fully representative of a series of vault ( strong room ) doors of similar design and construction, shall be subjected to test. Such sample shall be selected on the basis of random sampling by appropriate agency.

## 5 TEST METHOD

**5.1** Any or all of the methods of attacks specified in 6.2 to 6.4 may be employed at the option of the testing party, which shall consist of two experienced operators at a time familiar with the design of the door.

### 5.2 Lock Mechanism

An attempt shall be made to penetrate through the door to the lock box, lug, carrying bar, or other parts of the mechanism, then to release the boltwork by punching, prying, picking or cutting.

### 5.3 Cutting an Opening

An attempt shall be made to cut an opening of 620 cm<sup>2</sup> ( see 2.1 ) entirely through the door.

### 5.4 Cutting Locking Bolts

An attempt shall be made to cut as many bolts as necessary to open the door.

## 6 CRITERIA FOR ACCEPTANCE

### 6.1 Class C Door

The door shall resist entry when attacked continuously at a given point or area using the tools specified in 2.2 to 2.10 and test methods

specified in 5.2 to 5.4 for a net working time ( see 3.1 and 3.2 ) of 15 minutes.

### 6.2 Class B Door

The door shall resist entry when attacked continuously at a given point or area using the tools specified in 2.2 to 2.10 and test methods specified in 5.2 to 5.4, for a net working time ( see 3.1 and 3.2 ) of 30 minutes.

### 6.3 Class A Door

The door shall resist entry when attacked continuously at a given point or area using the tools specified in 2.2 to 2.10 and test methods specified in 5.2 to 5.4, for a net working time ( see 3.1 and 3.2 ) of 60 minutes.

### 6.4 Class AA Door

The door shall resist entry when attacked continuously at a given point or area using the tools specified in 2.2 to 2.10 and test methods specified in 5.2 to 5.4, for a net working time ( see 3.1 and 3.2 ) of 120 minutes.

### 6.5 Class AAA Door

The door shall resist entry when attacked continuously at a given point or area using the tools specified in 2.2 to 2.10 and test method specified in 5.2 to 5.4 for a net working time ( see 3.1 and 3.2 ) of 180 minutes.

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